

# MANUFACTURERS' RECORD

A WEEKLY REVIEW OF THE IRON, STEEL, METAL & HARDWARE TRADES.

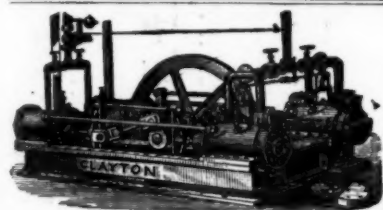
AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

WEEKLY.  
\$3.00 PER YEAR.

BALTIMORE SEPTEMBER 6, 1884.

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VOL. 6. No. 4.

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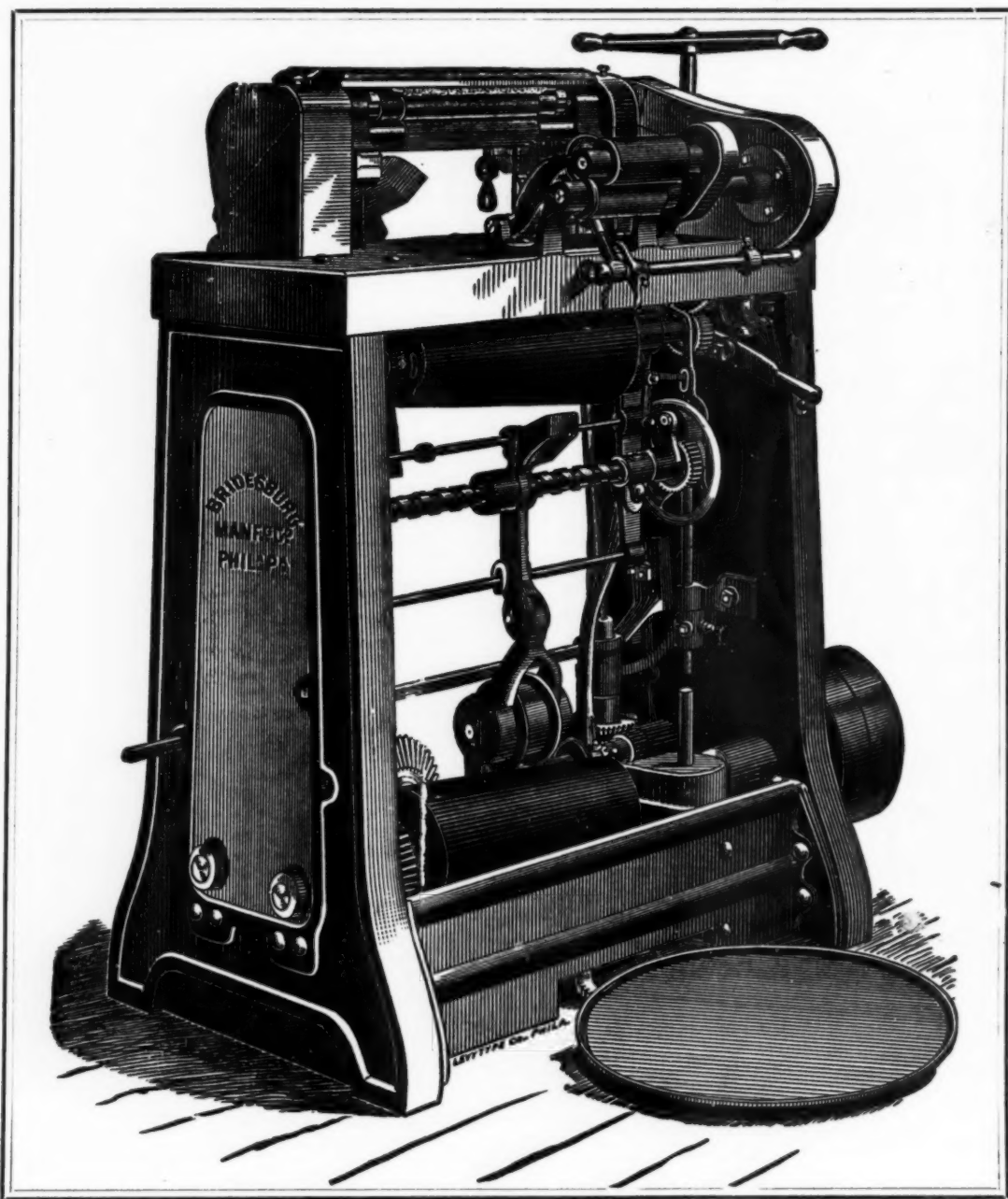
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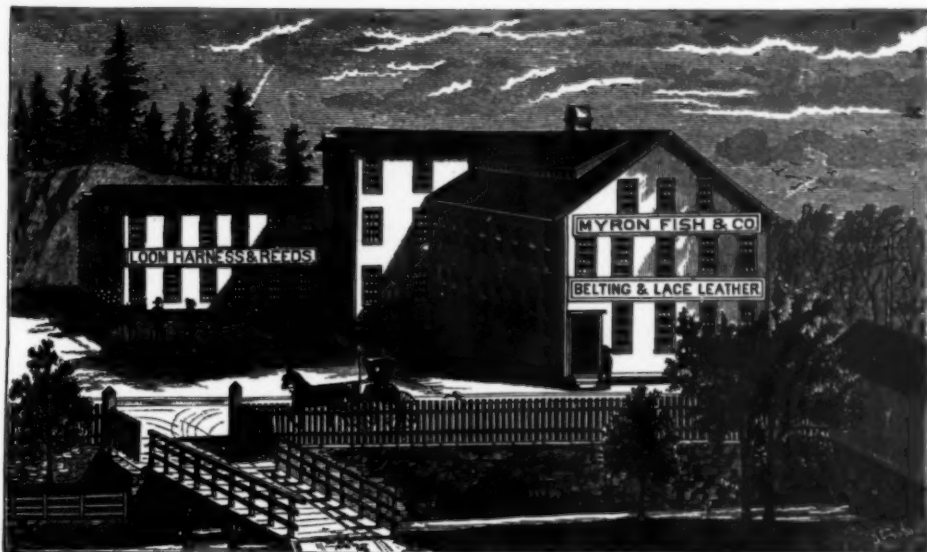
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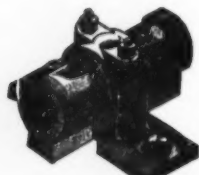
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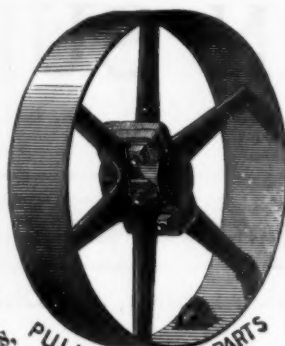
—Whitinsville, Worcester County, Mass.—



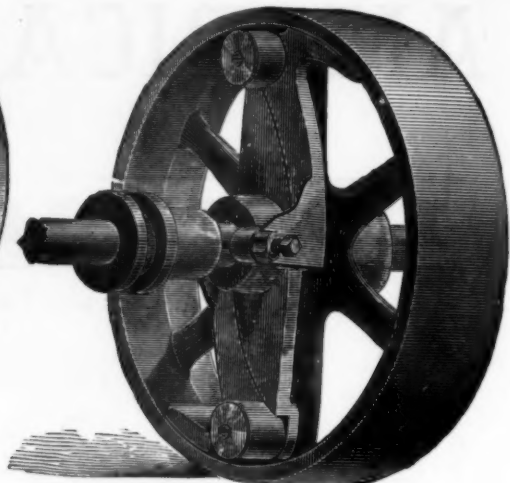
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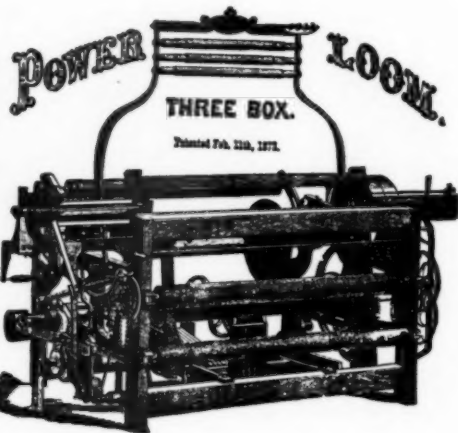
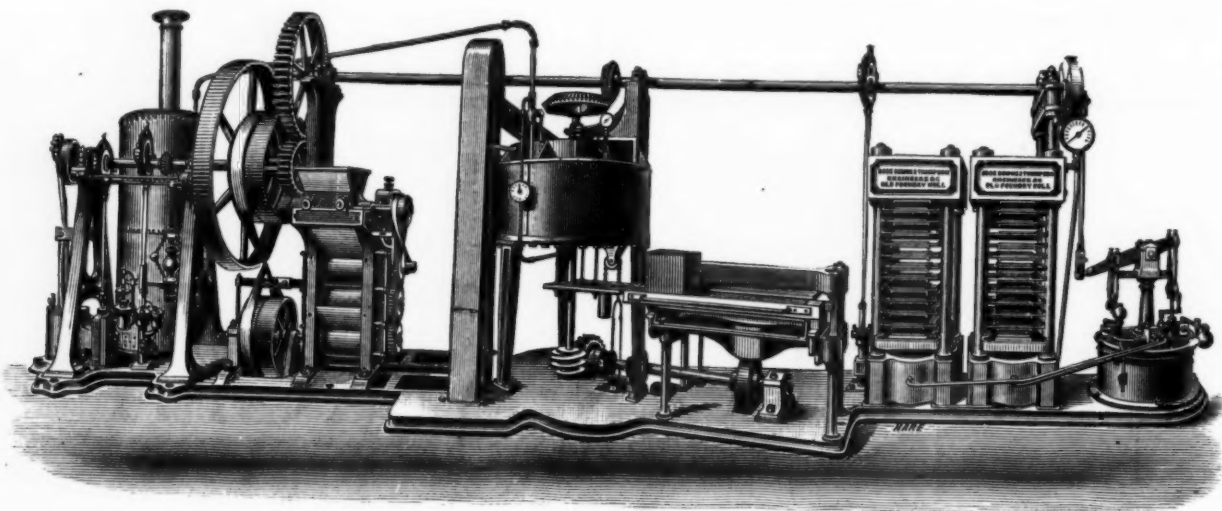
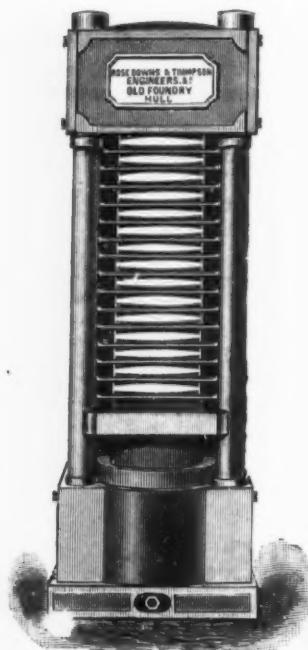
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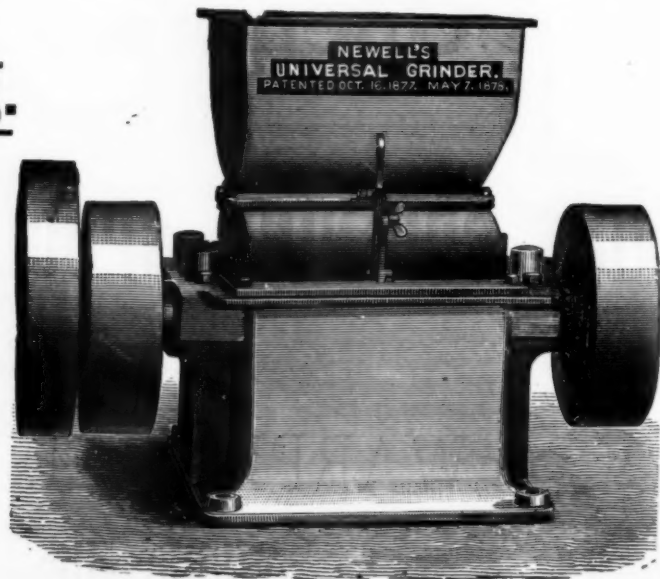
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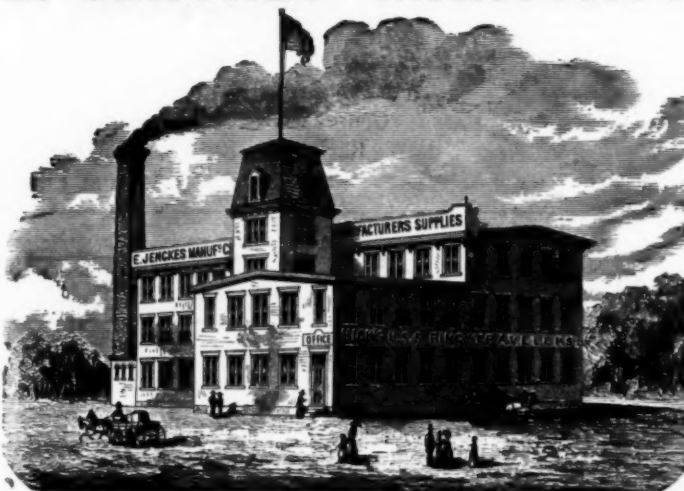
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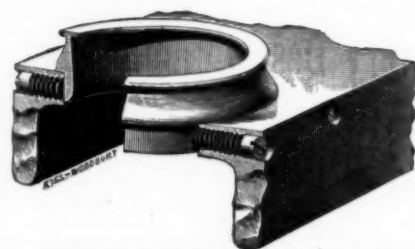
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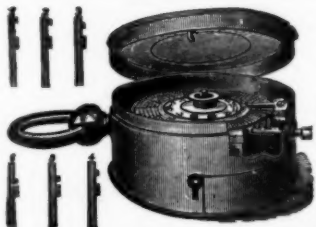
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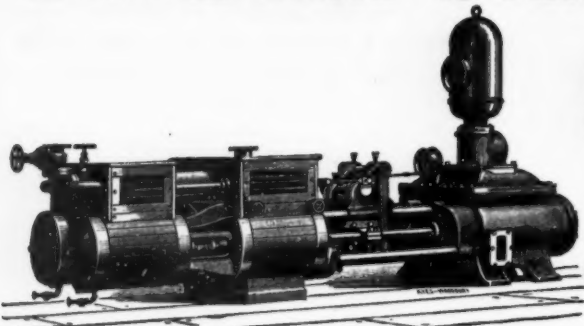
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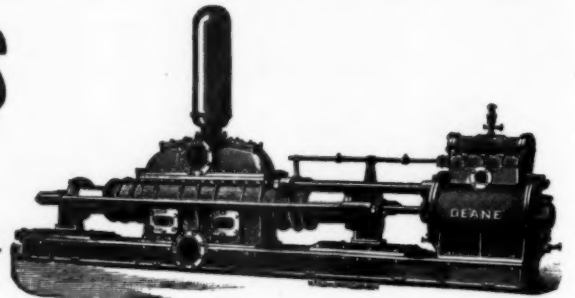
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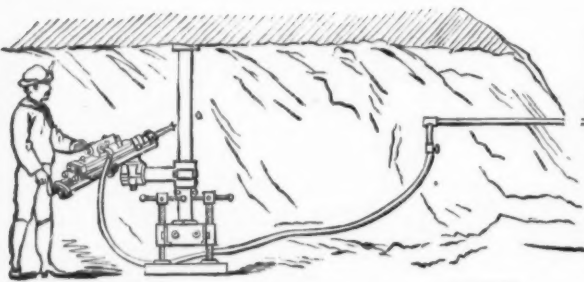
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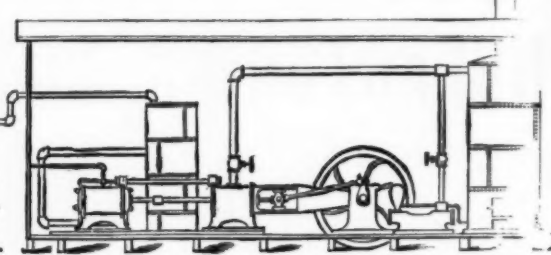
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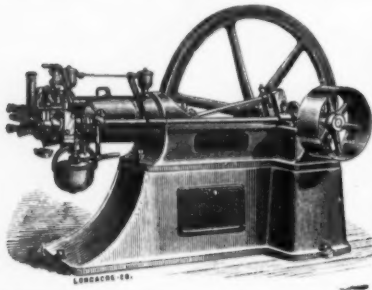
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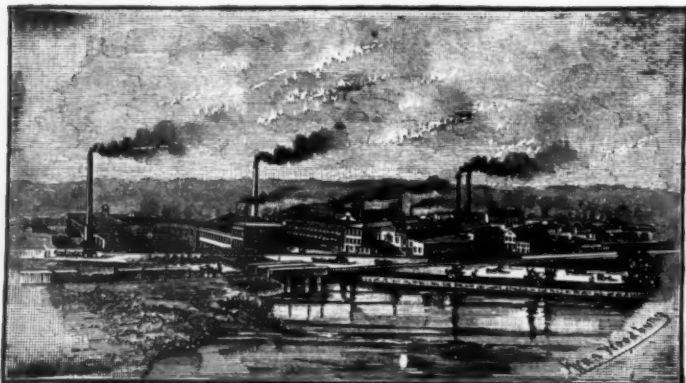
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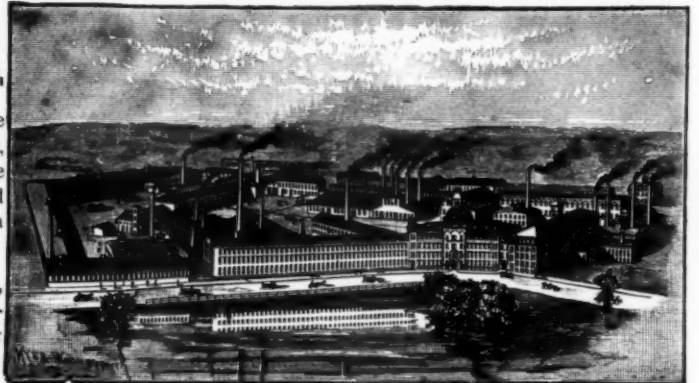
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BALTIMORE, SEPTEMBER 6, 1884.

## Lack of Banking Capital at the South.

From all parts of the South we hear of the lack of banking capital, and the consequent high rates of interest and restricted business. A few days ago we received a letter from a friend in Florida, engaged in the real estate business, in which he told of the large demand for money in that State. He could, he said, lend out in his own business fully \$25,000 a month at 12½ per cent. on mortgage with unquestioned security. A few weeks ago we mentioned the fact that New Orleans people were trying to borrow money in Wall street at 12 per cent., while in its last Sunday's issue the Atlanta Constitution says:

"Touching our lack of sufficient banking capital, an Atlanta banker said to me: 'If the Atlanta National and the Gate City had each a half million capital, we should still have one half less than we actually need and both of those banks would pay better than they now do.' Notwithstanding the large number of prosperous mechanics who are generally the best patrons of savings banks, there is not in the whole city of Atlanta a savings bank or any institution of a similar character. In Augusta, Ga., there is also great complaint about the scarcity of banking capital, one cotton factor being reported in the Chronicle and Constitutionalist as saying that 'all the banking capital of the city could easily be used in the cotton business alone;' while another one having long experience both in the cotton and the banking business, said:

"As to our needs, I will say that with our present and prospective population, and the growing volume of our trade, the banking facilities of Augusta are inadequate.

"Compare the banking capital of to-day—about one and three-quarter millions, (estimating the Georgia Railroad Bank at half a million) and population more than double—with what it was in 1860, when the banking capital, with the privilege of issuing bank notes, was about ten millions. With increased banking facilities many small enterprises would be fostered, and all merchants would be able to extend their trade over a largely increased territory, swelling our cotton receipts, the proceeds of which would be expended here, adding to the profits of all departments of business, and bringing about general prosperity."

In all new and rapidly-developing countries the demand for money is generally active, with high rates of interest, and this condition of affairs will continue at the South, either until much of the enormous capital, now seeking investment at the North at 3 or 4 per cent., finds its way into the Southern States, or until the natural increase of wealth in that section brings the supply of money more nearly up to the demand. The opportunities for profitable investment at the South are almost unlimited, and as outside capitalists become better acquainted with that section and its needs, there will be an immense amount of money attracted there.

## A Remarkable Statement.

One of the railroad commissioners of Tennessee is quoted as having lately made the statement in a public speech that as soon as the railroads would do certain things "he was willing to cease war against them." Considering the fact that the position of the railroad commissioners of Tennessee is of a judicial character, this is a rather remarkable statement for one of them to make, and it very forcibly illustrates the folly of these commissioners, composed often of politicians who know nothing whatever about railroads or the management of them. Tennessee is now reaping the reward of her ill-advised legislation upon railroads, and so long as she continues this commission in force, just so long will she suffer from the lack of transportation facilities. No capitalist is so foolish as to put his money into railroad enterprises in a State that refuses to allow him to manage his own property. The truth of this is very pointedly shown by the statistics of railroad building in the South last year, and is fairly illustrated by a comparison of three Southern States, which have a mandatory commission with three others which have none:

With Commission.	Miles.	Without Commission.	Miles.
Georgia.....	65	Florida.....	245
South Carolina.....	40½	Mississippi.....	362
Tennessee.....	40	Louisiana.....	238

Thus in the three States which maintain a railroad commission, only 105½ miles of road were constructed last year, against 845 miles in three States that have no commission, notwithstanding the fact that the first

three can probably show much greater natural resources and a much greater need for railroads than the others. In Georgia, South Carolina and Tennessee, the three States that have taken the control of railroads away from their owners and rightful managers, only about \$3,000,000 was expended last year in railroad construction, while in Florida, Mississippi and Louisiana over \$25,000,000 was spent in building and equipping new roads. Without increased railroad facilities the South must practically stand still, and, instead of enacting unjust and arbitrary railroad laws that will inevitably prevent the building of new roads, it is of the first importance that the Southern States should give every possible encouragement for the construction of railroads, and for the successful working of those already in existence.

## What the Cotton Mills are Doing for the South.

Wherever a new cotton mill is erected in the South there grows up around it and dependent upon it a thriving village of contented and prosperous people. A cotton mill not only gives work to the men but furnishes steady employment to many women. As an example of what these cotton mills are doing we give the following extract from a description in the Examiner, Aberdeen, Miss., of one of them:

The Stonewall Cotton Factory, in Clarke county, the Examiner says, is an institution of which any State might well feel proud, and, like the Mississippi Mills at Wesson and most of our other manufacturing establishments, is in all respects strictly a Southern institution. We visited it last week, and were received with that genuine hospitality and courtesy for which its excellent manager, Mr. T. L. Wainright, is noted, and devoted several hours under his instructive guidance to examining its workings and machinery. A Corliss automatic cut-off engine, of 180 horse-power, eighteen inch cylinder and forty-two inch stroke, one of the handsomest pieces of machinery we ever saw, furnishes the motive power for this excellent mill, and every piece of machinery within its massive and tastefully constructed walls is of the latest and most improved character. In addition to the other machinery used in the primary processes of manufacture, such as openers, lappers, carding machines, etc., this factory boasts 6,000 spindles—an increase of 3,000 since the census year—and 180 looms—an increase of 80, and on January 1st, 1884, its capital was appraised at \$215,000 and has been constantly increasing ever since. Its employees number at present—in dull season—175, of whom ninety-four are females, and nearly the entire force was drawn from the immediate neighborhood. The consumption of the mill is about nine bales of cotton a day and its product some ten thousand yards of cloth daily. The employees are all white with the exception of six or eight men employed at rough labor, and all live in the beautiful little cottages, admirably located that constitute the mill village erected by the enterprising proprietors, and rented to their occupants at nominal prices that still yield a fair interest on the investment.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year or six months for \$1.50.

## Good Times in South Carolina.

Last week we published an extract from the Atlanta Constitution regarding the unusually heavy crops produced in Georgia this year. The outlook in South Carolina seems to be equally as satisfactory, as the Columbus Enquirer-Sun says:

"One of the prominent business men of this city, and an observing one, has just returned from an extended tour through South Carolina. Within the past few weeks he has visited every section of our neighboring State and made it a point to enquire about the crops and ascertain all the information possible as to the prosperity of the people. The result of his observations is that there is much cause for congratulation. The wheat and oat crop, which has been harvested, is very fine and perhaps better than for several years past. The corn crop is made and is very large. It is conceded generally that South Carolina will make all the corn needed in that State with some to spare. The cotton crop is growing luxuriantly and with no disaster will be equal in receipts to any crop raised in the State. The people are getting along satisfactorily and are in a prosperous condition. This will be made more so when the new crop comes in. The information received by this gentleman is entirely reliable and we congratulate our neighbors upon the encouraging outlook."

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. We invite those interested in the development of the South to make free use of our columns. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more,—so if you desire to attract immigration or capital, or if you know of an opening for profitable investment in manufacturing, mining or kindred pursuits, write us an account of it. It will be published free of cost.

Our readers will confer a favor upon our advertisers and upon us, as well as benefit themselves, if, whenever they write to anyone advertising in this paper, if it is only for a catalogue, they mention that "your advertisement was seen in the BALTIMORE MANUFACTURERS' RECORD." A careful compliance with this request will be much appreciated.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

### Machinery for Cleaning Cotton Seed Wanted.

NATCHEZ, MISS., Aug. 13, 1884.

Editor Baltimore Manufacturers' Record:

SIR—I see in the BALTIMORE MANUFACTURERS' RECORD a great many advertisements, but none of the kind of machinery that I need. I want to know if there is any machinery made to take the lint off cotton seed and leave nothing but the hull and kernel. There is one thing that will do it, that is, an acid vat, but it has to be dried after it comes out of the vat. If you know of any machinery that will do this, please let me know where I can get it. I want to prepare the cotton seed for the crusher rolls, without having to take it to the gin stands, from there to the huller, and then to the shakers. It would do away with all that machinery, which would be a great saving, and the seed would yield more oil. The only trouble is to get a heater to dry it, so that it will not burn the seed. If the seed is burnt the oil is all gone.

Yours respectfully,

W. J. HEATHERINGTON,

Lee Oil Works, Natchez, Miss.

[We publish the above letter as a sample of what we are constantly receiving. In the rapid development of the South's industrial interests, all kinds of machinery are in demand, and many of our readers, when they fail to find any advertisement of what they need, write to us for information. Lately letters of this kind have been very numerous, asking about machinery for bag making, ore washing, spoke and handle machinery, ice making, &c., &c. Machinery makers and dealers will find it profitable to remember these facts, and to keep their goods constantly advertised in our columns.—Editor MANUFACTURERS' RECORD.]

### The A. T. Ballantine Ice and Refrigerating Machine.

The engravings hereto attached give a view of the A. T. Ballantine ice and refrigerating machine, together with the arrangement of the entire plant, so as to give a general idea of its construction and operation. From the receiver "K," which contains the necessary liquid anhydrous ammonia, through pipe "M" and feed cocks "N," the liquid is passed through heavy small pipes in exactly desired quantities into the end of the freezing coils in the different rooms, cellars, brine-vats, water and ammonia coolers to be cooled, and the other end of these different coils is directly connected with the collector "D." The expanded ammonia gas, which only has a pressure of from 5 to 20 lbs. per square inch, is drawn through suction "B" and suction cock "B" into the compressor "A," the lower part of which is a steam cylinder, and the upper part a gas compressor, having on one side the suction cock "B," which draws the gas into the cylinder and compresses it to from 125 to 150 lbs. per square inch, according to the amount of heat extracted from the cooling rooms and the temperature of condensing water, and the latent heat contained in said gas is converted into sensible heat. The compressed hot gas is then passed through pressure cock "C" to the oil-drip "E," were by a simple and ingenious arrangement all impurities, as well as oil, are separated, and the pure hot gas is passed through pipe "H" under the same pressure through condenser "G," which consists of about 20 separate spiral coils 150 feet each, and placed about 4 inches apart. With the combined arrangement of a water-sprinkler "I" and the draft of air, the sensible heat is taken from the hot gas, and, under the pressure contained in the condenser, the gas is liquified again and passed from the lower

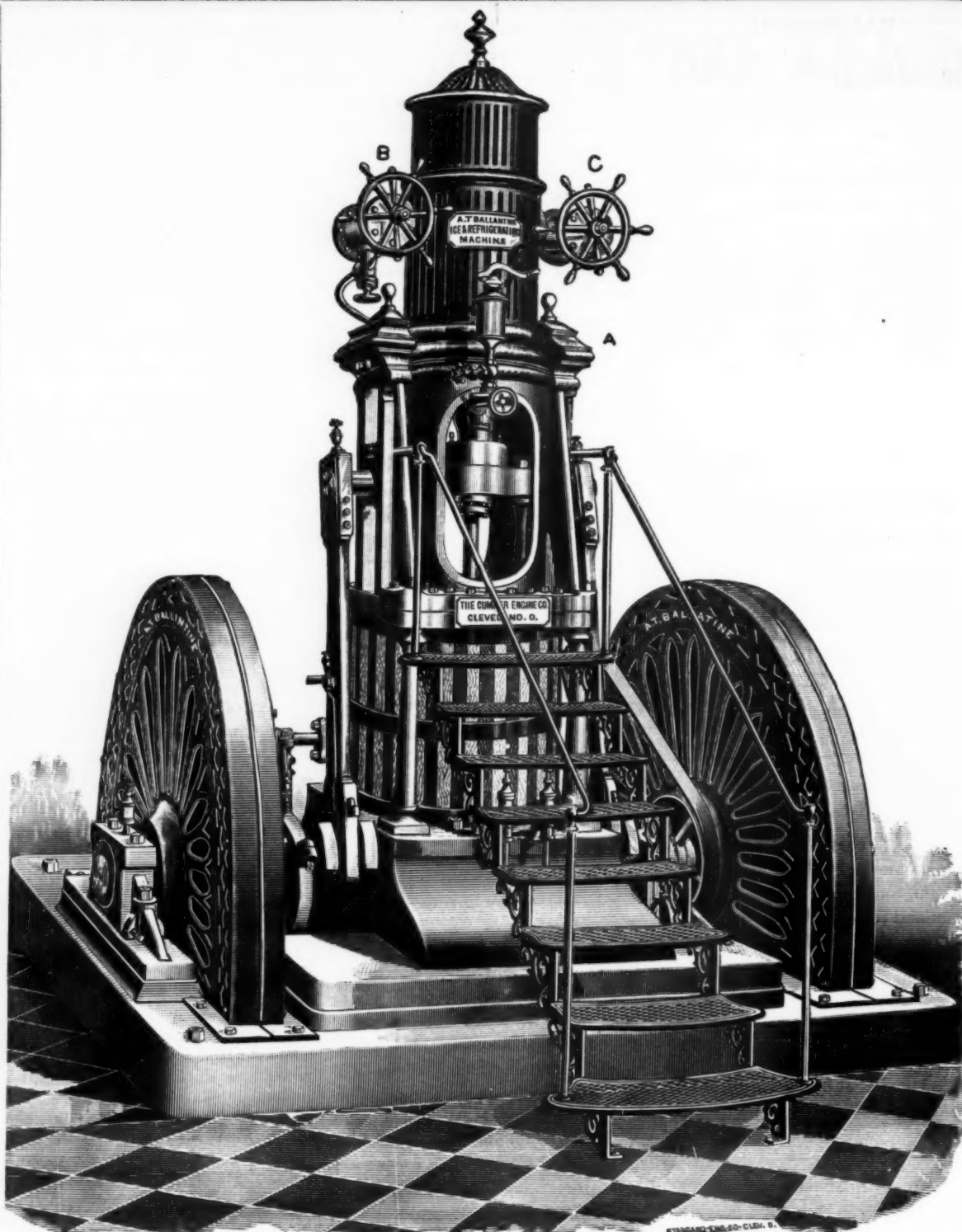
coil through pipe "L" to receiver "K," to be again passed through the small pipe "M" and the feed cocks "N" through the coils in the different rooms, cellars, brine-vats or ammonia beer cooler. There has been lately also attached, and forming a part of the plant, a purifier "F," out of which at any time, without stopping the machine, water, oil or other refuse, which always largely impair the efficiency of the cooling surfaces, can be removed.

The oil-drips are also connected with each other, so where two or more engines and condensers are used, any one engine can be worked with both or any one condenser, so in case of accident no delay in the working of the plant can take place. Further particulars can be obtained from the manufacturers, the Cummer Engine Co., Cleveland, Ohio.

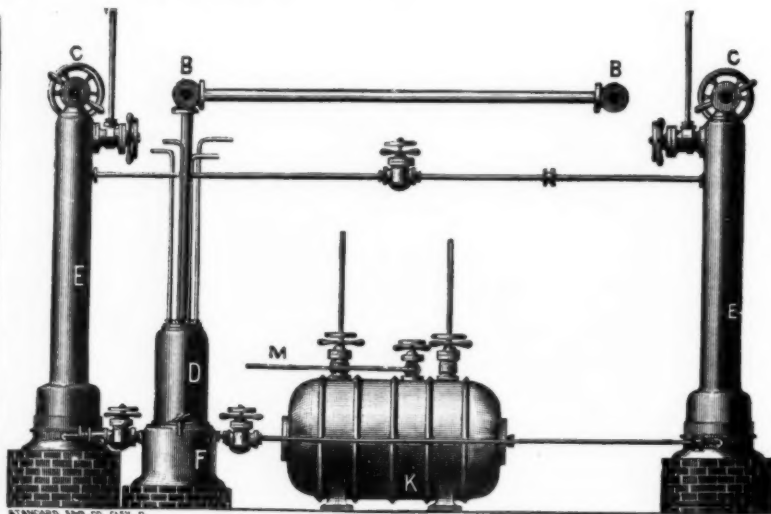
#### List of Patents.

The following Patents were granted to citizens of the Southern States, bearing date Aug. 26, 1884. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Batchelor, J. F., Baltimore, Md. Car brake and coupling.....304,157  
Blaine, Geo. E., Atlanta, Ga. Wagon bolster spring.....304,066  
Bruener, F. W., Covington, Ky. Apparatus for supporting persons and things in front of window.....303,980  
Cadwallader, Bassett, Parkersburg, W. Va. Manufacture of articles from wood-pulp.....304,169  
Coffman, W. W., Roanoke, Va. Current wheel.....304,173



THE A. T. BALLANTINE ICE AND REFRIGERATING MACHINE.



THE A. T. BALLANTINE ICE AND REFRIGERATING MACHINE.

Davis, C. C., Flemingsburg, Ky. Window...304,183  
Duncombe, D. S., Knoxville, Tenn. Harness rosette.....303,993  
Fuller, J. D., Atlanta, Ga. Electric battery jar and insulating the same.....304,265  
Griffiths, J. M., Palam, Ark. Cultivator.....304,097  
James, Henry, Memphis, Tenn. Axle skein.....304,208  
Keeney, J. W., Coalburg, W. Va. Miners drilling machine.....304,109  
Mergenthaler, Ottmer, Baltimore, Md. Matrix making machine.....304,272  
Naff, J. I. C., Winchester, Ky. Grass-seed harvester.....304,228  
Renfro, T. M., Gainesville, Ga. Cotton-gin fire extinguisher.....304,139  
Scott, J. M., Louisville, Ky. Trace carrier.....304,240  
Sherrod, B. W., Birmingham, Ala. Dumping car.....304,137  
Schmiedel, Albert, Wellsburg, W. Va. Window.....304,138  
Thomas, Philip, J. E. Norris, J. H. Chattin, and J. T. Fisher, Brighton, W. Va. Nut lock.....304,148  
Warfield, S. D., Baltimore, Md. Green-corn cutter.....304,149  
White, F. L., Lebanon, Tenn. Combined cotton-planter and fertilizer distributor.....304,151



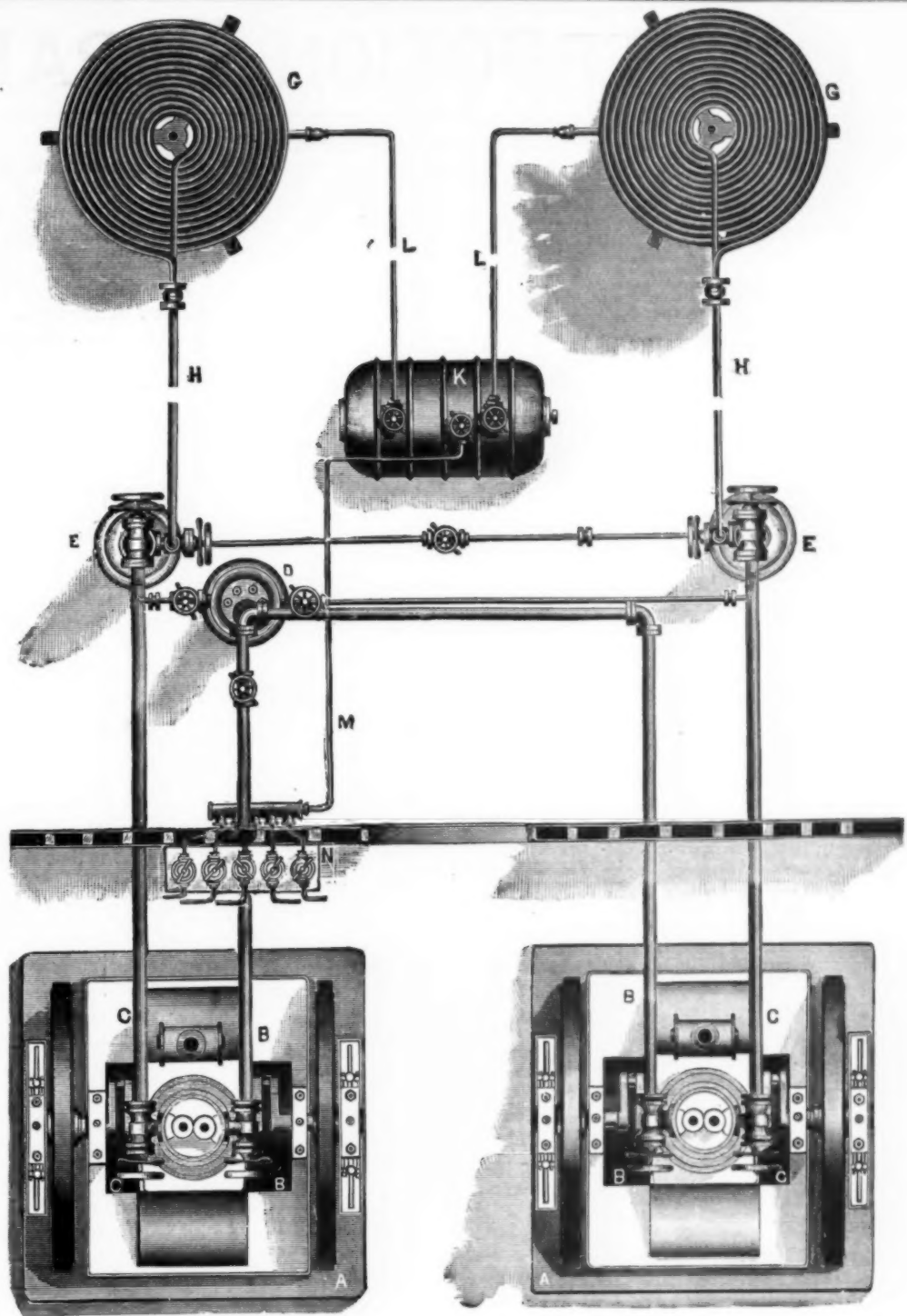
### Notes Concerning the International Electrical Exhibition.

A "Bureau of Standards of Pressure," etc., is one of the most important measures decided upon to be established during the continuance of the exhibition, under the auspices of the Franklin Institute. It is intended to exhibit and conserve all standards necessary to, or in any manner related to the work of the "Board of Examiners" in conducting the tests. The authorities have followed the precedent established by the management of the Mechanical Department at the United States Centennial Exhibition in 1876, and have arranged for the use of the Edson Patent Pressure Recording and Alarm Gauge, which is provided with both a Mechanical and Electro Magnetic Alarm Apparatus, for expert comparison of instruments connected with steam generators and steam engines and boilers.

There are numerous styles of engines and boilers for running the dynamos and furnishing steam for various uses in the manufactories. Public institutions, steamers, private houses, etc., and all must submit to severe criticism and be approved by competent authority before they are entitled to the confidence of the innocent and confiding in the community, who are to be exposed to their power when in use on the land or on the water.

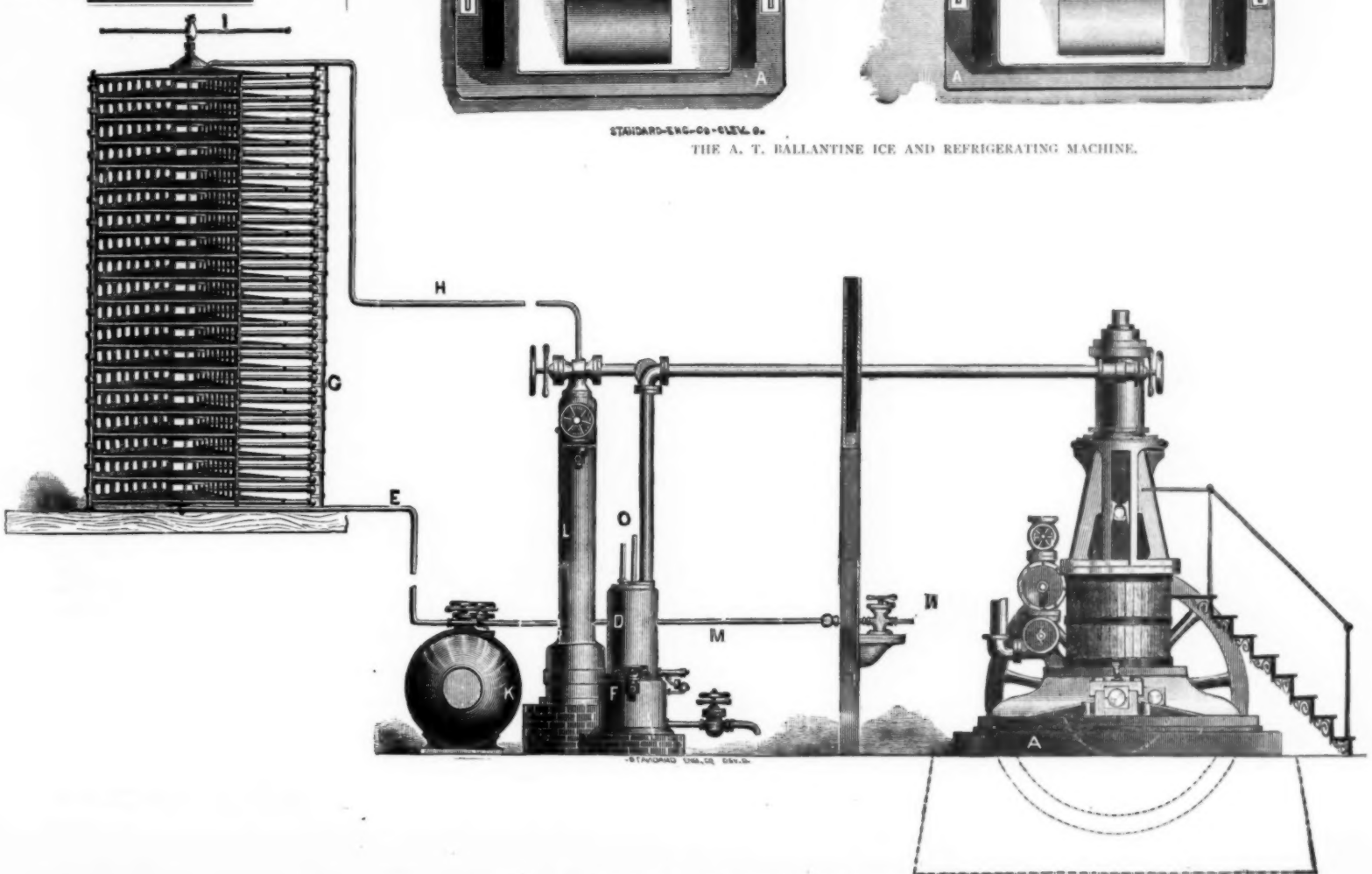
Electricity is too subtle and dangerous an enemy to be trusted without being surrounded by the most careful and intelligent employees, and by perfect machinery and automatic safeguard that have been discovered, and it is nothing short of criminal conduct to take any thing for granted as being safe and accurate without abundant proof of the facts of its being so. The marked improvement in the success of the electric light is due to the improvement in the dynamo engines and the ability to criticise the performance by reference to charts automatically obtained, showing the uniformity or the irregularity, as the case may be, of the speed of the dynamos, and of the passage of the electrical current, uniformity being a necessity, and without which successful lighting cannot be obtained.

Economy of fuel is so great a desideratum that an automatic device which affords exact information without fail cannot well be ignored, and the instruments alluded to also furnish an instant warning whenever any over pressure exists.



STANDARD-ENG-CO-CHEM. 9.

THE A. T. BALLANTINE ICE AND REFRIGERATING MACHINE.



THE A. T. BALLANTINE ICE AND REFRIGERATING MACHINE.

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

## ALABAMA.

The Milling and Ginning Co., Marion, Ala., will soon put in machinery for ginning milling and axe handle and bucket making.

## FLORIDA.

Smith & Hooker, Jacksonville, Fla., are erecting a new saw mill.

## GEORGIA.

The county commissioners, Savannah, Ga., have purchased a site on which to erect a new jail.

The Sibley Cotton Mill, Augusta, Ga., will make large purchases of cotton machinery to increase the supply, as previously reported, and also to replace that lately burned.

An effort is being made to establish a canning factory in Augusta, Ga.

D. G. Allen, La Fayette, Ga., is building a steam gin, and contemplates putting up a cotton seed oil mill.

## KENTUCKY.

A planing mill will probably be stated at Warsaw, Ky.

## MARYLAND.

The Maryland and Montana Silver Mining Co., previously reported, composed of E. L. Palmer, Joseph R. Stonebraker, Jas. D. Mason, Jr., and others of Baltimore, will put a large amount of machinery into their Montana mine.

The Baltimore Gold and Silver Mining and Smelting Co., of North Carolina, will put in new machinery.

The Grafton, Buckhannon & Charleston Railroad, capital \$1,000,000, has been incorporated in West Virginia by Wm. M. Clements, of Baltimore, and others.

## NORTH CAROLINA.

E. A. Ebert will erect a tobacco factory in Winston, N. C.

Fogle Bros., Salem, N. C., will erect a new tobacco factory.

Phillips & Co., Hyde Co., N. C., are putting up a grist mill.

## TENNESSEE.

The Gum Log Mining Co., has been chartered at Chattanooga, Tenn., to mine gold, silver, &c.

The Stone's River Creamery, J. M. Avert president, has been organized at Murfreesboro, Tenn. Will erect buildings and purchase machinery at once.

S. P. Taylor and Jesse Armstrong, Milan, Tenn., have leased a building and will put in new machinery for manufacturing barrel staves.

## TEXAS.

W. C. Bonner, Brenham, Texas, who has contracted to build water works at that place, as previously reported, is now buying machinery and will commence work immediately.

The Marshall Car Wheel and Foundry Works, Marshall, Texas, reported in this issue as burned, loss \$100,000, will be rebuilt at once.

The Avery Plow Co., capital \$20,000, has organized at Austin, Texas.

The Lamar Street Methodist Church, Dallas, Texas, will erect a new \$30,000 building.

It is reported that the Texas Pacific Railway Co. will build large machine shops at Marshall, Texas.

The Chenita Mining Co., Presidio Co., Texas, are putting in heavy mining machinery.

A large pork packing establishment is to be built at Sherman, Texas.

The San Antonio & Aransas Pass Railroad Co., office in San Antonio, Texas, previously mentioned, expect to commence a survey very soon; capital \$2,000,000.

It is announced that the canning factory previously reported as probable at Palestine, Texas, will be built.

## VIRGINIA.

The proprietor of the Hygeia Hotel, Old Point, Va., will, it is reported, erect a new hotel.

Roanoke, Va., will build a \$25,000 court house an \$8,500 school house and a \$10,000 market.

## BURNED.

Little Rock Cotton Gin Factory, Little Rock, Ark.; loss \$35,000.

Marshall Car Wheel and Foundry, Marshall, Texas; loss \$100,000.

Woods Flour Mill, Eufaula, Ala.; loss \$50,000.

Flour mill of J. W. Vinyard, Gishes, Va. Loss \$8,000.

Flour mill and gin of Freeman & Powell, Alvarado, Texas; loss \$3,000.

Farmer's Mill, Sherman, Texas; loss \$5,000.

Champion Flouring Mills, Jackson, Tenn.; loss \$30,000.

## MANUFACTURING.

### BALTIMORE.

MESSRS. J. F. HESSE & SON, cutlers and grinders, N. Holliday street, have a very large order from a shirt manufacturer of this city for a lot of fine steel shirt knives, besides small orders from other parties in the city.

MR. JOHN B. ADT, machinist, N. Holliday street, is working on two tobacco dryers for a large tobacco firm in the South, and has orders for hoisting machinery for parties in the city.

MESSRS. JOHN T. COLEMAN & SONS, boiler makers, Holliday and Pleasant streets, are constructing boilers for parties in the city, and are also completing boilers for stock. They report the outlook as very encouraging.

MR. WM. R. EMERSON is doing considerable business at present, orders during the past week having come in very fast, especially for traction engines and saw mills. He is selling goods of the Marseilles make, which will have a ready sale all the fall.

MESSRS. W. J. CLARK & BRO., manufacturers of W. J. Clark's patent improved hydrant, report a steadily increasing business. Their orders are liberal from plumbers in the city, who have more than doubled former orders. They have given very general satisfaction wherever used and from the inquiries received it looks as if there will be a heavy demand this winter.

MR. F. H. FOLSOM, millwright and mechanical engineer, reports his business as very encouraging, having now on hand a number of orders for new work and for a line of machinery of which he has made a specialty. He is preparing the drawings for a large mill in the South.

MR. E. J. CODD & CO., machinists, have nothing new on hand, but a large amount of repair work for firms in the city.

### GENERAL.

THOS. WOOD & CO., Philadelphia, Pa., are making the shafting, pulleys and hangers, for the new mill of the Trenton Cotton Mills, Trenton, Tenn., built by Mr. A. Randall, mill engineer.

MR. E. MATHER, agent of the Jarvis Patent Furnace, Harrisburg, Pa., is setting a boiler for Koon Bros., tanners, Shickshinny, Pa., to burn wet oak tan bark.

If some of the newspapers published in manufacturing towns and cities would devote more of their space, under an easily found heading, to the chronicling of items of news relating to existing and prospective manufacturing and industrial enterprises, they could afford to abridge some of the lengthy political dissertations, which neither greatly instruct their readers nor do anything towards building up their town.—American Machinist.

We commend the above excellent suggestion to the papers of the South. Many papers in that section, we are glad to say, already appreciate the great value of letting the world know just what is being done in industrial matters in their neighborhood, but there are others that almost entirely ignore such things. If all Southern papers would make a specialty of reporting each week everything new relating to the progress of manufacturing and mining enterprises in their vicinity, they would not only educate their own people up to taking greater interest in such matters, but they would materially assist in attracting the attention of outside capitalists to what is being done in building up the South. We trust that Southern papers, daily and weekly, will give favorable consideration to a matter of such great importance.

WE are indebted to Capt. Richard Irby, general agent of the Bureau of immigration Richmond, Va., for a very full and complete map of Virginia and parts of Maryland and West Virginia.

THE BALTIMORE MANUFACTURERS' RECORD, one of the best exponents of the progress being made in the New South, has begun a new year with many evidences of deserved prosperity.—Louisville Commercial.

### Important to Southerners.

Persons arriving in New York via Cortlandt Street Ferry, by taking the 6th Avenue Elevated Train, corner Church and Cortlandt streets, can reach the Grand Union Hotel in 42d street, opposite Grand Central Depot, in twenty minutes, and save \$3 carriage hire. If en route to Saratoga or other summer resorts via Grand Central Depot, all baggage will be transferred from hotel to this depot free. 600 elegantly furnished rooms \$1 and upwards per day. Restaurant the best and cheapest in the city. Families can live better for less money at this hotel than at any other first-class hotel in the city. †

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year or six months for \$1.50.

### The English Mechanic

**Who Would Rejoice to see America Opened Up to British Free Trade.**

The manufacturing interests of the South have assumed such healthy and vigorous dimensions that the question of a protective tariff is one that enters largely into the interests of Southern people. Many theories, enlightened and otherwise, have been advanced, pro and con, in all stages of development, but it is a noticeable fact that the pros seem to be in the majority. Theories are capital things in their way, but a cold, practical view from one directly interested in the matter of his bread and meat, relative to this mooted question, knocks theories into "pi" or higher than the proverbial kite.

An Avalanche reporter recently gained a pretty fair insight into the practical benefit of a protective tariff and the evils that inevitably result from its abolishment. Wm. Bently of Gloucester, England, is an Englishman to the manor born. Mr. Bently is assistant foreman of the Atlas Iron Works, Tweddle, Platt & Fielding, at Gloucester, and last March he was sent to this country by his employers to superintend the erection of some heavy machinery for boiler works. After performing his duties in Philadelphia and one or two other eastern cities he came to Memphis to place in position machinery for the boiler shops of the Milburn Gin and Machine Company, where an Avalanche reporter found him yesterday morning busily engaged in directing the labor of a large force of workmen who were placing heavy English machines in ship-shape order.

"What are your impressions of the United States in general, and the South in particular?" quoth the reporter.

"As far as I've seen it's a great country, and there seems to be no end of it. I'm very much pleased with the South, especially the watermelons—a bit of fruit I've never seen before landing at Memphis. It is a fine article and furnishes both food and drink. You've got lots of cotton and tobacco here, and any amount of corn. Why, in England I never tasted corn on the cob. We raise Indian corn there and feed it to our stock."

The reporter gently led Mr. Bently to talking about the condition of the English mechanic and the trade of English manufacturers.

"Well," said Mr. Bently, "trade has been rather depressed for the past six or seven years. Many of the manufactories are running from about one-half to three-quarters of their full capacity. In the Atlas Works, where I'm employed, we have about 500 hands—fully one-fourth less than we could give employment to if times were better. Even with this decrease we have had more than an ordinary proportion of trade, on account of certain kinds of work we turn out that cannot be obtained elsewhere."

"What is the cause of this depression?" "That is rather hard to answer. Some attribute it to political agitations, while others claim a variety of causes, but the fact remains that our manufactories are running nothing like full time."

"What wages do mechanics receive in England?"

"Journeymen receive from \$5 to \$10 per week. Occasionally \$11 or \$12 is paid but very rarely. Twelve dollars is the highest sum paid to a journeyman mechanic, and where one gets that much there are hundreds of good men who do not make more than \$8, \$9 or \$10. Out of that they have to pay for their bread and clothing, as a matter of course."

"Take a single man, for instance, what would you rate his living line at?"


"A single man can get board for \$3 a week, and with the exercise of care and economy

**LOCKWOOD, GREENE & CO. MILL ENGINEERS**

Office, 65 Westminster St., Providence, R. I. Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.



It is clearly shown how the English mechanic can readily perceive the advantages

 If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.



Exemption From Taxation.

As the question of exemption of manufacturers from taxation has attracted considerable interest in the South, the following statements made by Mr. H. P. Hammett, of Greenville, S. C., president of the Piedmont Cotton Manufacturing Co., who is everywhere recognized as one of the ablest cotton manufacturers in the South may prove of value. Mr. Hammett in a letter to the Greenville Enterprise, says:

I have been requested to state some facts in reference to the influence, or effect, which the Act of the Legislature entitled, "An Act to aid and encourage manufactures" had in raising the capital stock of the Piedmont Manufacturing Company and building their Mill and property.

As I did all the canvassing for the stock, and received every subscription that was made to it, I know all the influences which induced capitalists to invest in it, and am quite positive in my opinion that none were stronger or more influential than the law which partially exempted their property from taxation for ten years. I think the question was asked me by every subscriber for the stock at the North, whether we had any; if so, what exemption laws in this State for such investments? And my statement of the provisions of the existing law generally decided the question in his mind. My opinion to-day is very decided, that but for the exemption law, the Piedmont Mill would not have been built. And while I do not know enough of their early history to speak as positively, I believe the same would apply with equal force to Clifton, Pelzer and Paoletti.

It is a fact well known to every one at all familiar with the construction and starting of cotton mills, that no dividend or return upon the capital invested, is, or can be made, or is expected to be made, under from three to five years from the time the capital is paid in. It requires this time, under the most favorable circumstances, to build, organize, and get fully under way and prepared to make money by its operations, and this exemption law is intended, and has the effect of partially compensating for the loss of any income upon the money invested, for the time that nothing is being realized from it.

The taxes upon the lands now owned by the Piedmont Manufacturing Company, and upon which their Mill and village are located, would probably be from \$50 to \$75, if there were no improvements upon it. The Company paid a tax of \$623 last year, while the merchants and other taxpayers on the premises, brought there by the Company, paid perhaps \$300 more. To this add the poll tax say \$200, and you have a tax of \$1,000, or \$1,100 paid as it is with the exemption law in force. And as their exemption will now soon expire, their taxes will not be less than \$5,000 a year. So that as a financial operation for the tax-payers of Greenville County, it is the best one they ever made.

The Company pays for services for various kinds to their employees about \$120,000 a year, in money, all which is expended in this County, the effect of which is that real estate has advanced fully 100 per cent. in value all around, for a distance of five miles, and its influence is felt a much greater distance.

As the time for which the property of the Piedmont Manufacturing Company is partially exempted under the law, will now very soon expire, they have little interest in its continuance. Besides as they were organized and built their property under its provisions, they have a vested right and cannot be effected by its repeal; therefore I am in a position upon the subject, the same as any other taxpayer who has investigated it, and I am clearly of the opinion that it is of the greatest importance to the people of this county and State that all fair and honorable means should be employed to in-

vite capital into this State for investment, that it should be protected by good and wholesome laws, so that labor and pursuits may be diversified and all its resources developed. This inducement should not be confined to capital outside of the State, but also that in the State, and if that inducement can be strengthened by good and well considered exemption laws, to compensate in part for loss of interest, and the venture of investment in new enterprises—that may be advisable,

It is a mistaken idea that it reduces taxation, or is class legislation. On the contrary, it builds up large properties for perpetual taxation, after the short partial exemption expires, and the investment becomes remunerative. It increases taxation from the beginning, and is a most capital financial operation for the taxpayers, as I have illustrated in the case of the Piedmont Manufacturing Company. So far as I know, there is not a great State in this Union, distinguished among her sister States for progress, enterprise, thrift, wealth, intelligence, culture, and the higher order of civilization, and every quality which goes to make her people prosperous, happy and progressive, that have not there exemption laws, looking to the building up of her resources, giving employment to her people, (making them all producers instead of consumers,) and the accumulation of wealth. No people can be absolutely prosperous, and certainly not progressive, who follow but one pursuit. Labor must be diversified, and the investment of capital encouraged and protected, and nothing contributes more to that end than well considered and wholesome laws having that object in view.

The Vendome of Boston.

Mr. Moses King, the author of "Kings Handbook of Boston," in a description of the celebrated Back Bay district of Boston, says:

"At the corner of Dartmouth Street and Commonwealth Avenue is the Vendome one of the most superb and perfect hotels in the world. \* \* \* \* \*

The Vendome is not only imposing and palatial, but it is also fire-proof. There are no exterior surroundings to increase the risk, —Commonwealth Avenue 250 feet wide on the north, Dartmouth Street 100 feet wide on the east, and private residence separated from the hotel on the west and south.

The length of the hotel front on Commonwealth Avenue is 240 feet, and on Dartmouth Street 125 feet. Including the mansard roof and basement, the Vendome is eight stories in height. The Commonwealth Avenue front is of white Tuckahoe marble, and the front on Dartmouth Street is of Italian marble. The caps of the windows and doors are elaborately carved. The roof and towers are of wrought iron, covered with slate; the floors are laid upon iron beams and brick arches; and all interior partitions are of strictly incombustible material.

On the first floor are the various public rooms, five dining-rooms, an elegant banquet-hall 30 by 110 feet, and the grand parlors; all reached by the main entrance and by a private entrance on Commonwealth Avenue, so that clubs and parties can be served without interference with the ordinary business of the hotel. There is also an entrance for ladies on Dartmouth Street. The rotunda is most exquisitely finished; and the great dining-hall with seats for 250 persons is richly adorned with mirrors, carved mahogany and cherry wood, and decorated with fresco-work and a handsome frieze. Each of the six upper stories contains seventy rooms, grouped so as to be used singly or in suits. Two of the celebrated Whittier passenger, one baggage, and several small elevators for special purposes, provide ample facilities for transit up and down. The plumbing-work is almost marvellous, for every improvement to secure health and comfort has been introduced. Every apartment has access to a

spacious bath-room, which, as well as every gas-fixture, has its own independent ventilating-tubes. No open basins are placed in chambers, but all are shut off in the closets adjoining. Every room is provided with open fire-places, although the whole building is heated by steam. The rooms are all virtually 'outside rooms,' and every suite has a bay-window. In short, there is no improvement of modern times that has not been introduced into this noble edifice; and no luxury afforded in situation, surroundings, magnificence and *cuisine*, in any hotel, is wanting in the Vendome. Had Mr. Whitney and Col. Wolcott done nothing else than erect this noble edifice, which has been done at a cost approaching one million dollars, they would have earned the gratitude of all Bostonians. Many years will elapse before another similar hotel will be erected in Boston; and Col. Wolcott probably for many years will have, as he has had for years past, the honor of conducting the grandest hotel in this city."

A Valuable Publication.

A late publication on the industrial economy of the United States by the statistician of the Department of Agriculture, Mr. J. R. Dodge, presents some striking facts and suggestions. During the last twenty years it is shown that agriculture has more than doubled its production with a smaller proportion of farm labor, and now threatens a glut in farm products unless this proportion shall be further reduced. The question of outlet to foreign markets is discussed, and the fact shown that the surplus of food products merely pays for imported food and beverages, and that the trade cannot be extended without ruinous reduction in price.

The phenomenal progress of the central "West" is presented in deductions from statistics showing that half the cultivated area of the United States lies in one-fourth of its territory, producing more than three-fourths of some of the principal crops. It is shown that already three-tenths of the manufactures of the United States are produced within the central "West" in less than three-tenths of the area of the country within half a century from its settlement.

Suggestions of new rural industries are made, the necessity for variety in in agriculture enforced, and excess in production of standard crops deprecated.

COTTON SPINDLES OF GREAT BRITAIN.—

The Manchester Guardian in a recent article gives an estimate of the total number of spindles in Great Britain. The interest of the table centers largely in the spinning capacity which it shows of the various districts. It will be observed that no allusion is made to Glasgow in this table, and it is assumed that the spinning power of Scotland is included under the heading "other districts."

	Spindles.
Accrington and district.....	600,000
Ashton-under-Lyne and district.....	2,400,000
Bacup and district.....	442,000
Blackburn and district.....	1,630,000
Bolton and district.....	4,700,000
Burnley and district.....	1,020,000
Bury and district.....	944,000
Chorley and district.....	570,000
Clitheroe and district.....	230,000
Colne and district.....	220,000
Darwen and district.....	470,000
Eccles and district.....	350,000
Glossop and district.....	1,050,000
Golborne and district.....	110,000
Haslingden and district.....	350,000
Heywood and district.....	390,000
Hindley and district.....	870,000
Hyde and district.....	9,000,000
Oldham and district.....	1,060,000
Leigh and district.....	1,250,000
Rochdale and district.....	2,063,000
Manchester and district.....	271,000
Marple and district.....	411,000
Middleton and district.....	1,240,000
Mossley and district.....	394,000
Newchurch and district.....	68,000
New Mills and district.....	203,000
Padiham and district.....	2,260,000
Prescot and district.....	1,040,000
Stalybridge and district.....	1,500,000
Stockport and district.....	250,000
Tormorden and district.....	71,000
Warrington and district.....	46,000
Whalley and district.....	700,000
Wigan and district.....	2,377,000
Other districts.....	41,000,000

Prosperity of Natchez, Miss.

The mercantile interest of Natchez represents a large portion of its life. The mercantile assessment on city rolls as capital invested is \$602,875. This is divided up into 90 merchants who represent all classes of commercial commodities, the sales of some amounting to \$500,000, growing lesser to \$250,000, and on down to the small shop, comprising in the aggregate an estimated trade annually of between \$5,000,000 and \$6,000,000, and jointly with spinners, buyers purchasing and shipping 40,718 bales of cotton. Of course this does not include the manufacturing sales. This trade is drawn from a large and fertile territory in all directions surrounding Natchez; in many instances from clear across counties in Mississippi and through parishes in Louisiana. But the practical portion of this report will prove more to the point than the search into the mystical lore of the past, for its prosperous condition is evinced by its many growing industries, representing a greater amount of capital than any place of its size in the immediate South. The Natchez Cotton Mills, beginning in 1878 with 4000 spindles and 128 looms only, run two years, when it is said, by the skillful management of its interest it more than doubled its capacity by operating 10,000 spindles and 304 looms. It now manufactures 4,500 bales of cotton annually into 5,000,000 yards of sheeting, shirting and drills, employing in this work 250 men, women and children. It represents a capital stock of \$225,000. It is officered by R. F. Learned, as President; A. C. Britton, Treasurer; and Arthur E. Shaw, Secretary. There are but few stockholders.

The Rosalie Cotton Mills began in 1880 as a yarn factory, but in 1883 turned their attention to manufacturing cotton goods, using 1800 bales of cotton annually, manufacturing over 3,000,000 yards of shirting, sheeting and drills. It now operates 6,048 spindles and 160 looms, and is doing well. It employs 150 men, women and children. J. C. Swartz is President, Geo. G. Knapp, Secretary and Treasurer, representing \$175,000 capital stock.

The Adams Manufacturing Company Oil Mills, incorporated with \$100,000 capital, J. M. Carpenter, President, and H. W. Rose, Secretary, operates 4 Taylor presses, with 20 boxes each, employing 75 hands, making 200 barrels oil per week.

Lee Oil Works, Carpenter & Dicks, proprietors, with \$50,000 capital, operating 3 Taylor presses, with 15 boxes, each manufacturing 120 barrels oil per week, employing 50 men. Both of these mills under management of J. M. Carpenter.

W. S. Carpenter & Son, batting mills, operate 12 batting machines, valued at \$10,000; employs 7 hands and manufactures about 8,000 pounds per week.

The Natchez Ice Works cost about \$50,000, and make 15 tons per day. It runs about 5 months in the year and employs 10 hands. A. C. Britton, president, and Wm. Lowry, manager.

JAMES R. OSGOOD & Co., of Boston, publish in neat and convenient form the address of Robert P. Porter to the Arkwright Club of New England on "Protection and Free Trade To-day." Mr. Porter graphically presents exactly what voters in both political parties want to know, the facts showing how free trade and protection works at home and abroad, in the field and the workshop. He shows how agriculture, commerce and manufacturing in the United States, Great Britain, Germany and Holland have been affected by these two economic policies. Mr. Porter's work will be appreciated by business men, farmers and artisan who have no time to read a volume on the subject, but who want a clear exposition of the condition of labor here and in European countries. Price 10 cents.











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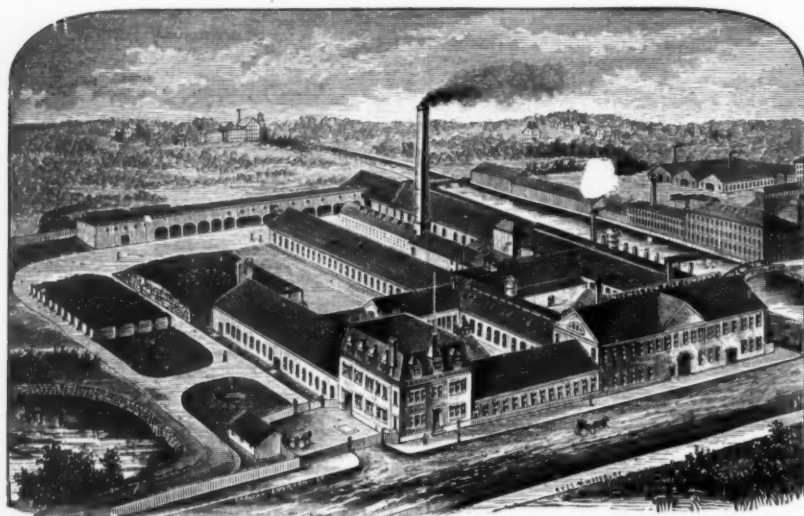
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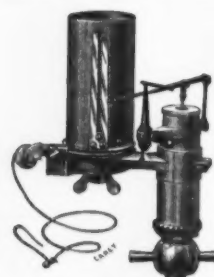
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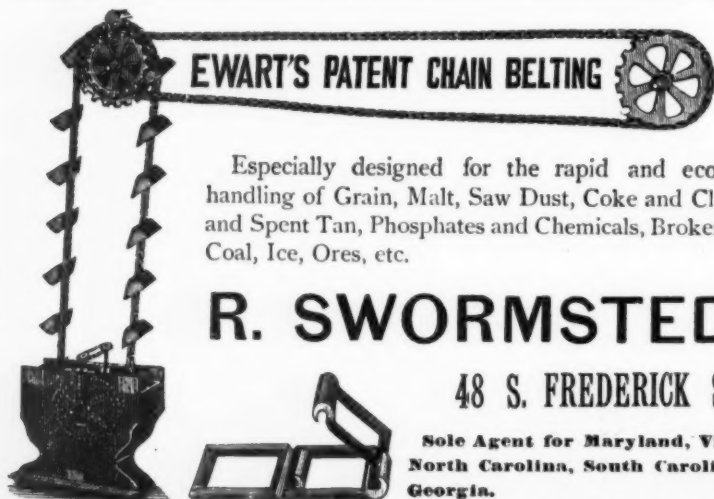
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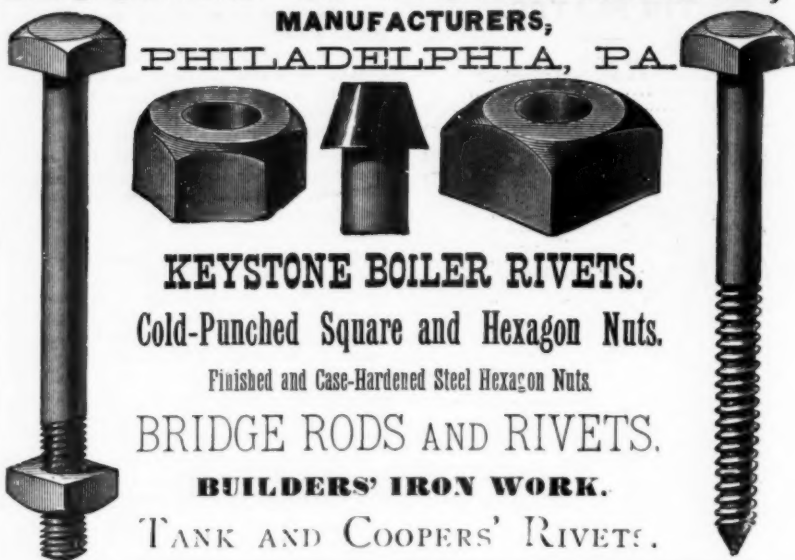
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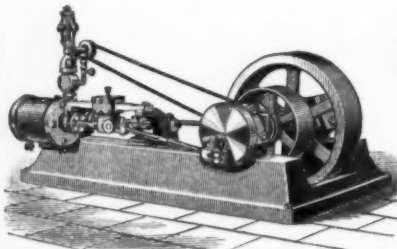
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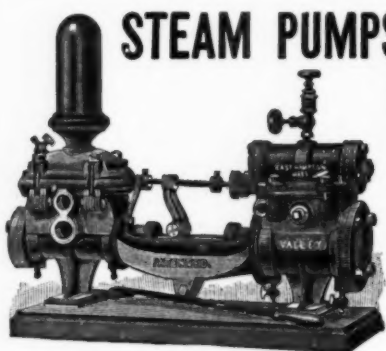
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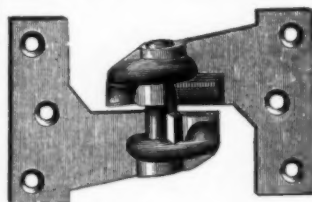
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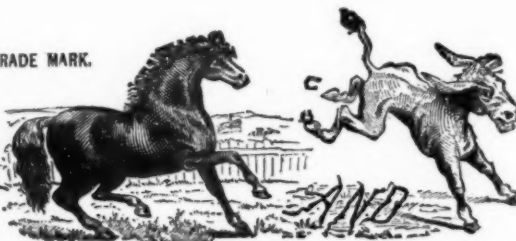
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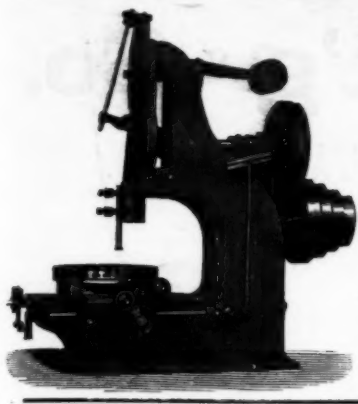
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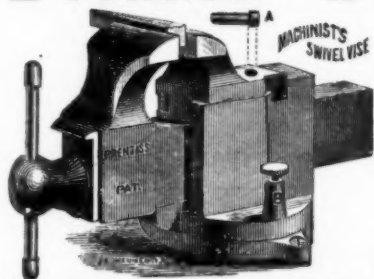
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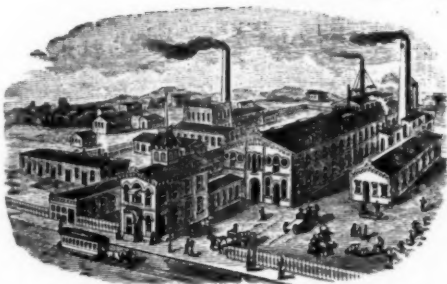
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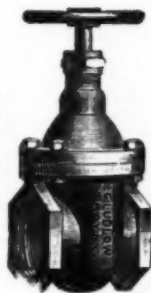
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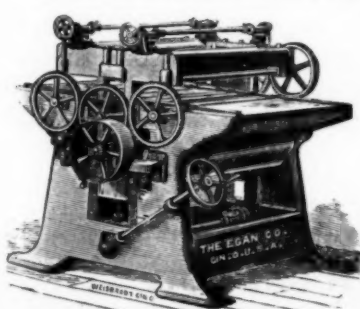


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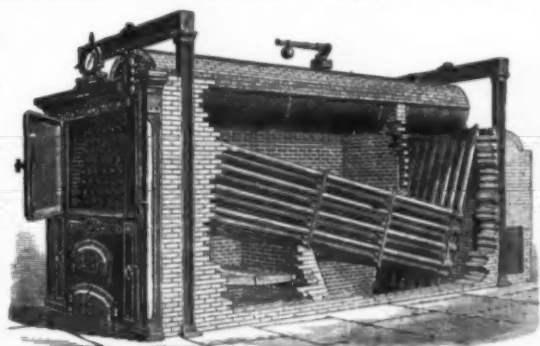
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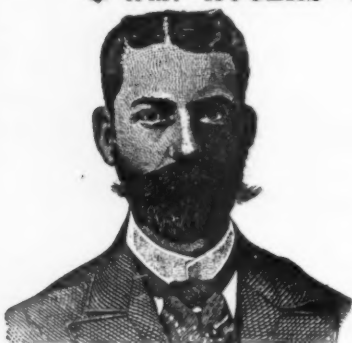
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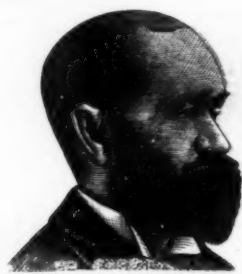
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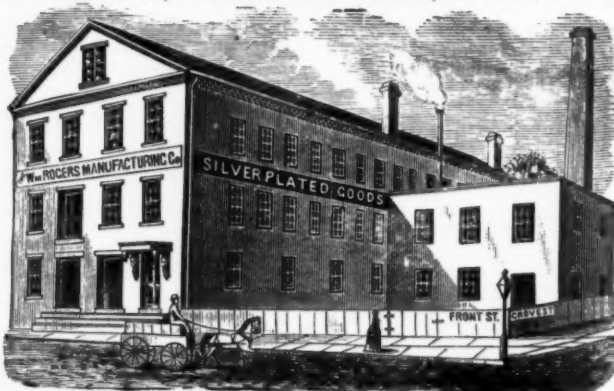
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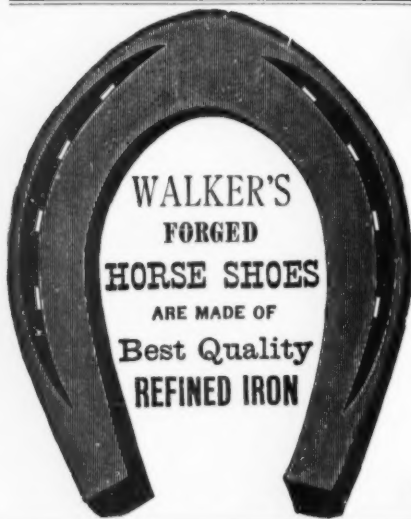
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Per 100 feet.	dis 35 %
B. D. for N. E. Hangers—	
Small. Med. Large.	
Per 100 feet.	dis 35 %
<b>RIVETS.</b>	
Iron and Tinned, new list, Dec. 10, 1881.	dis 40 %
In bulk, new list, Dec. 10, 1881.	dis 40 %
Copper Rivets and Burrs.	dis 45 %
Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15.	
Each.	dis 45 %
RIVET SETS.	dis 45 %
<b>RODS.</b>	
Stair, Brass.	dis 25 %
Stair, Black Walnut.	dis 60 cts. per doz.—net
<b>RULES.</b>	
Boxwood. Ivory.	
Chapin's.	dis 70 & 10 %
Standard.	dis 40 & 10 %
Stanley.	dis 40 & 10 %
Stevens & Co.	dis 70 & 10 %
Stevens & Co. Miscellaneous.	dis 50 & 10 %
<b>SAD IRONS.</b>	
Self-Heating, Charcoal.	dis 9.00 net
Mrs. Pott's Irons.	dis 35 %
Enterprise Star Irons, new list, July 20, '82.	dis 35 %
Comb'd Fluter and Sad Iron.	dis 15.00, dis 15 %
Common Sad Irons.	dis 25 %
<b>SAND PAPER.</b>	
Baeder & Adamson's Flint, 60 to 100.	\$4.50 per r.m.
Baeder & Adamson's Flint, 2 1/2 & 3.	5.00 per r.m.
Baeder & Adamson's Flint, Assort'd.	4.75 per r.m.
Baeder & Adamson's Star.	3.75 per r.m.
Baeder & Adamson's Emery.	\$6.50 per r.m.
J. Bartle's Sand, Flint and Emery Paper.	dis 30 & 5 %
<b>SASH CORD.</b>	
Common.	dis 14 cts. net
Silver Braided Lake Hemp.	dis 17 cts. net
Silver Braid, Lake White Cotton.	dis 10 %
Silver Braid, Lake White Cotton.	dis 10 %
Silver Lake Cable Laid, Bengall Unbleached	dis 10 %
Hemp, 17 cts.	dis 10 %
Russian Hemp, 10 cts.	dis 10 %
Italian Hemp, 34 cts.	dis 10 %
<b>SASH WEIGHTS.</b>	
Solid Eyes, in 500-lb. lots and over.	dis 1 1/4 cts. net
<b>SAUSAGE STUFFERS OR FILLERS.</b>	
Miles.	dis 20, \$20, dis 25 & 5 %
Perry.	dis 20, No. 15; No. 6, \$21.00. dis 35 %

<b>SILVER PLATED HOLLOW WARE.</b>	
Wm. Rogers Manf. Co.	dis 40, 15 & 5 %
Meriden Britannia Co.	dis 33 1/2 %
<b>SPOONS.</b>	
Britannia.	dis 60 & 10 %
Tinned, Iron, Table and Tea.	dis 65 %
Tinned Iron Basting.	dis 65 %
German Silver.	dis 40 %
<b>STONE.</b>	
Hindustan No. 1, 5c.; Axe, 8c.	net
Sand Stone.	dis 33 1/2 & 10 %
Washita Stone, No. 1.	dis 16 cts. net
Washita Stone, Slips.	No. 1, dis 45 cts. net
Arkansas.	dis 1.50 per lb. net
<b>SQUARES.</b>	
Steel.	dis 50 %; full cases, dis 50 & 10 %
Iron.	dis 50 %; full cases, dis 50 & 10 %
Nickel Plated.	dis 50 & 10 %
Try Square and T Bevels.	dis 50 & 10 %
Disston's Try Square and T Bevels.	dis 40 %
<b>TACKS, BRADS, &amp; C.</b>	
<b>New List, Sept. 1, 1882.</b>	
Tinned Swedes Tacks.	dis 30 %
Tinned American Tacks.	dis 30 %
Swedes Tacks, all kinds.	dis 30 %
American Cut Tacks.	dis 30 %
Copper Tacks and Nails.	dis 30 %
Hungarian Nails.	dis 35 %
Gimp and Lace Tacks.	dis 30 %
Gimp and Lace Tacks, Tinned.	dis 30 %
Finishing Nails.	dis 25 %
Trunk and Clout Nails.	dis 25 %
Common and Patent Brads.	dis 20 %
Basket Nails.	dis 20 %
Brush Tacks.	dis 20 %
Leathered Carpet Tacks.	dis 20 %
Cigar Box Nails.	dis 20 %
Chair Nails.	dis 20 %
Double-pointed Tacks.	dis 40 & 5 %
<b>TAP BORERS.</b>	
Common and Ring.	dis 20 %
Ives' Tap Borers.	dis 15 & 10 %
Enterprise Mfg. Co.	dis 25 %
<b>TOBACCO CUTTERS.</b>	
Enterprise Mfg. Co. (Champion).	dis 25 %
Wood Bottom.	dis 12.00, dis 40 & 5 %
All Iron.	dis 9.50, dis 40 & 5 %
Wilson's.	dis 35 %
<b>THERMOMETERS.</b>	
Tin Case.	dis 75 & 10 %
Storm Glasses.	dis 3.25 per doz.
<b>TOE CALKS.</b>	
Winsted.	dis 10 cts. dis 5 %
<b>TRAPS.</b>	
Game, Newhouse.	dis 35 %
Game, Oneida Pattern.	dis 60 & 10 %
Game, Blake's Patent.	dis 40 & 10 %
Mouse, Wood, Choker.	dis 10 cts. dis 10 %
Mouse, Round Wire.	dis 10 cts. dis 10 %
Mouse, Wire.	dis 10 cts. dis 10 %
Mouse, Catch-em-alive.	dis 10 cts. dis 10 %
Cyclon Mouse.	dis 75 cts. net
Ideal Mouse.	dis 10 cts. net
Rat, "Decony".	dis 10 cts. net
Delusion Mouse, per doz.	dis 1.50
<b>TROWELS.</b>	
Lothrop's Brick and Plastering.	dis 25 %
Reed's Brick and Plastering.	dis 15 %
Disston's Brick and Plastering.	dis 20 %
Clement & Maynard's.	dis 20 %
Worral's Brick.	dis 20 %
Brad's & Walby's.	dis 20 %
Garden.	dis 55 %
<b>TRUCKS (WAREHOUSE, &amp; C.)</b>	
Handy Truck.	dis 2.50 net
Penfield Block Co.'s list, 1882.	dis 35 %
Peerless, with Cogs, No. 3.	dis 54.00
Peerless, with Cogs, No. 4.	dis 66.00
Eureka, No. 2.	dis 42.00
<b>VICES.</b>	
Solid Box—Wilson's.	dis 50 %
"Trenton."	dis 45 %
"Iron City Tool Works."	dis 50 %
Bench—Wilson's.	dis 45 %
"Trenton."	dis 25 %
"Parker's."	dis 20 %
"Prentiss."	dis 25 %
"Bonney's."	dis 35 %
Well Wheels.	dis 60 & 10 & 10 %

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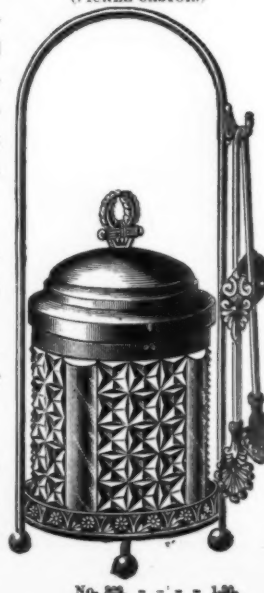
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We manufacture a complete line of Silver-Plated Table Ware of all descriptions, and should be pleased to send our Price-List or Catalogue to any reliable dealer.

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**1865 Wm. Rogers Mfg. Co.**  
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The McLewee Patent.

Burns **WITHOUT** a Chimney.

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Absolutely Odorless and Non-Explosive!

Give a larger and brighter flame than can be obtained with a chimney. The combustion is perfect, and they are therefore free from the slightest odor. The globes having large openings at both top and bottom are never broken by the heat. Are superior to all mechanical lamps, in that they require no winding up and have no complicated machinery to get out of order. They are made with both *Single* and *Duplex* Burners.

We have had the light given by the Duplex measured by the U. S. Government Lighthouse Department, and it gives 50 per cent. more light than either the mechanical or Student Lamps.

It is unquestionably the Best and Safest Lamp ever made.

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Stand Lamp, (Nickel Plated,) Single Burner,	
Complete, - - - - -	\$4
Duplex, made in two sizes, - - - - -	\$5 and \$6
Hanging Lamps from - - - - -	\$3 to \$12

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PATENT



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The above Cut represents the HERRINGTON MACHINE FOR DIGGING POTATOES. It will dig where there are heavy vines, and does good work in all kinds of soil, leaving the potatoes on top of the ground, without cutting or bruising, and in good shape for picking up. If it does not perform the work, as above stated, successfully and satisfactorily, no patronage is asked for it. It will tell its own story in a potato-field with a span of horses before it.

It was awarded a diploma from the Western New York Agricultural Society at Rochester, N. Y., September 30th, 1881, for a *successful* machine for digging potatoes; also First Premium at the Fairs of both Rensselaer and Saratoga Counties, N. Y., and "Certificates of Highest Merit" at New York State Fairs of 1882 and 1883.

The following is a description of the machine and its workings:

The frame or enclosure which contains the machinery for operating the digger is hung on the axle of the machine. At the rear end of said enclosure the digger proper is hung at its top centre to a shaft which projects from the enclosure, which has a rapid, short, oscillating motion when in operation, which is driven by a crank, and a sliding-ox up near the handle of the machine, which is also enclosed. The vine and weed kickers are driven with a chain belt, as can be seen.

The operator holds the handle of the machine in one hand, the reins in the other.

As the machine hangs flexible the digger can be elevated or lowered at will. When the end of a row of potatoes is reached, the operator hoists the digger out of soil, and at the same time the vine straighteners under the poles are hoisted and held by a spring and ratchet, so that the operator has nothing to do but attend to his team until he gets into position for the next row; then he pulls the cord on top of the handle, which lets the digger and vine straighteners down ready for operation, thus digging every row in succession.

Orders for these machines will be filled in time for the potato harvest of 1884.

For Price, Description, Testimonials, &c., Address  
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NEW.

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- 1 Fox Turret Lathe, each 13, 15 and 16 in. swing; 5 ft. bed.
- 1 Sq. Arbor Fox Lathe, 15 in. x 6 ft.
- 1 each, Hand Lathes, 10, 12, 14, 15 and 18 in. swing.
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- 1 each, 2, 3, 4 and 6 Spindle Gang Drills.
- 1 each 8, 10, 12, 15, 20 and 28 in. Shapers.
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- 1 Grant & Bogert Milling Machine.
- 1 each, Nos. 2, 4 and 5 Screw Machines.
- 1 each, 3 and 7 Spindle Nut Tapper.
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- 1 Cutter Grinder.
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- 1 each 4, 5 and 6 ft. Arm Universal Radial Drills.

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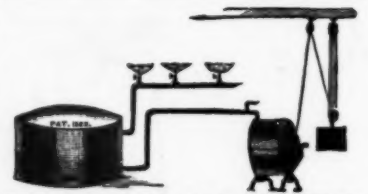
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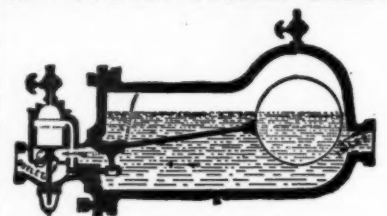
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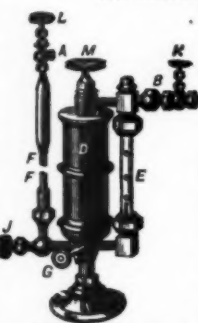
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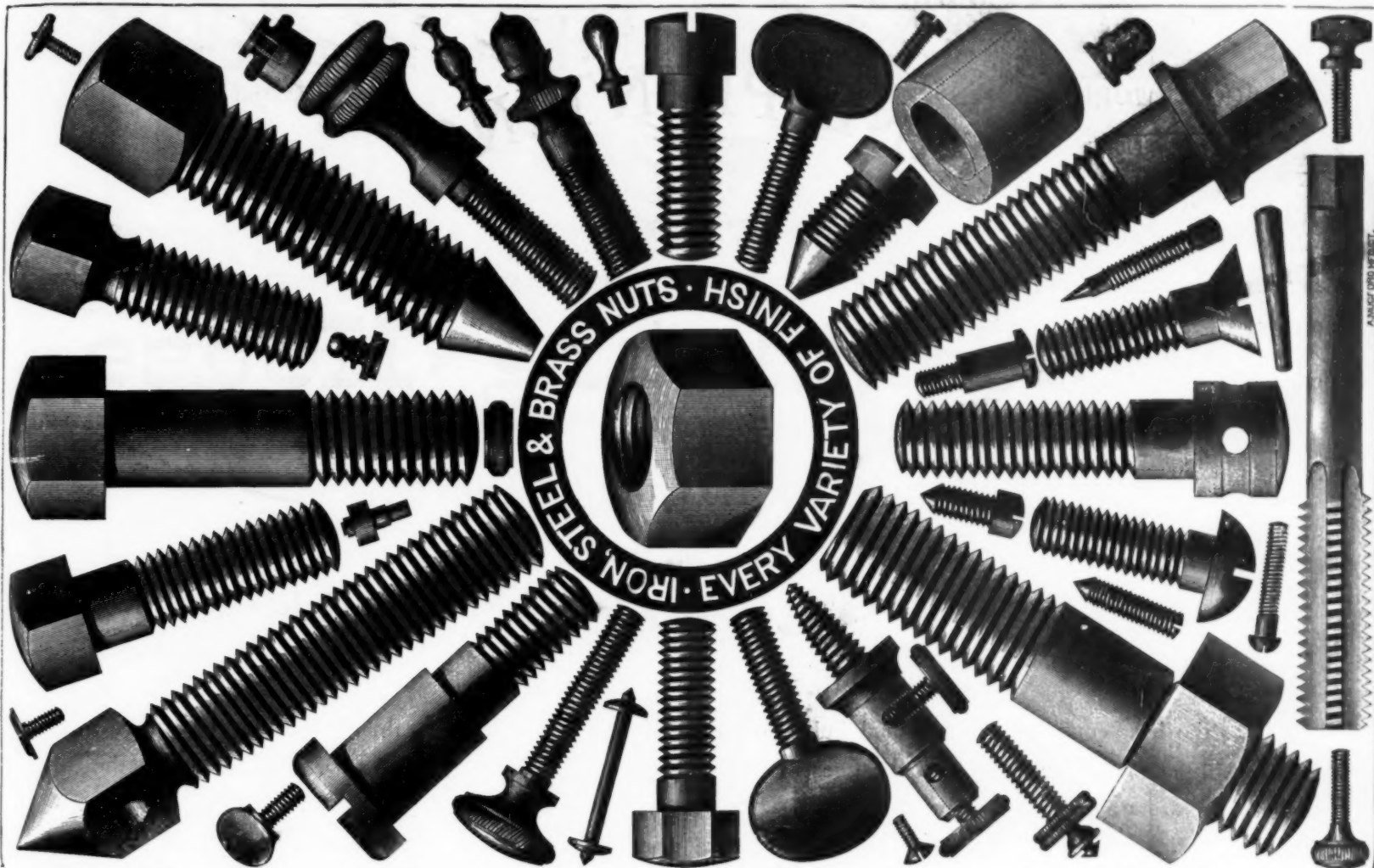
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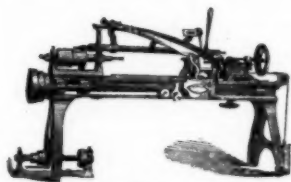
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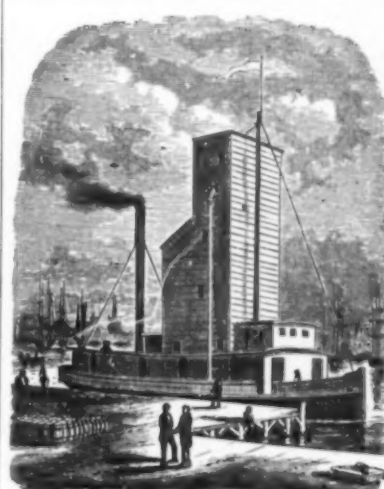
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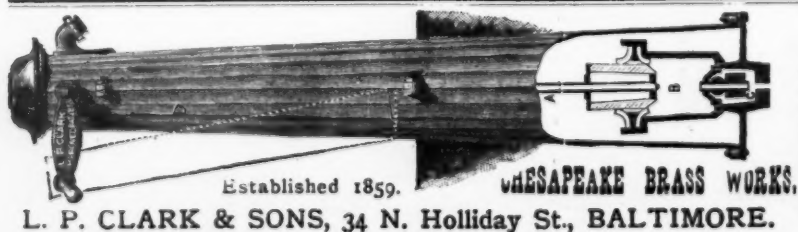
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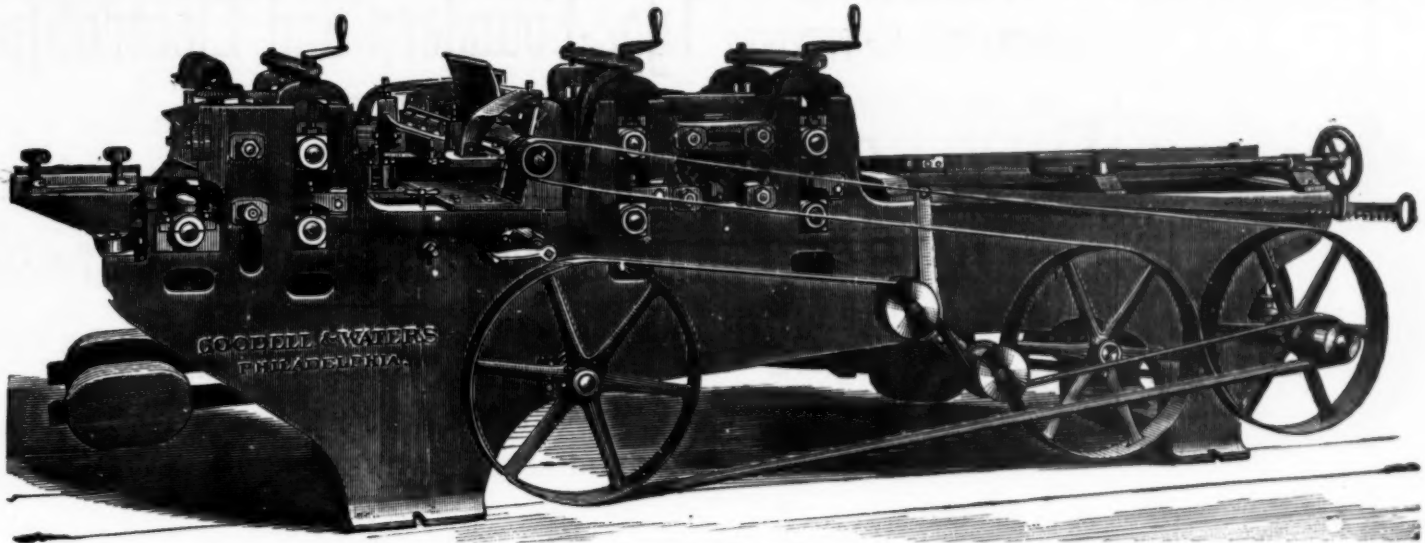
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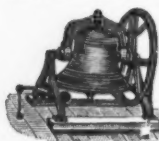
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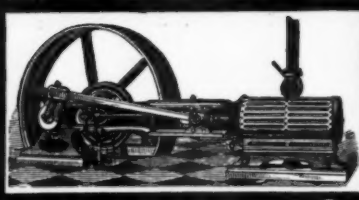
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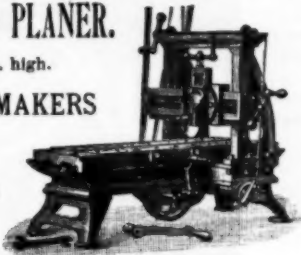
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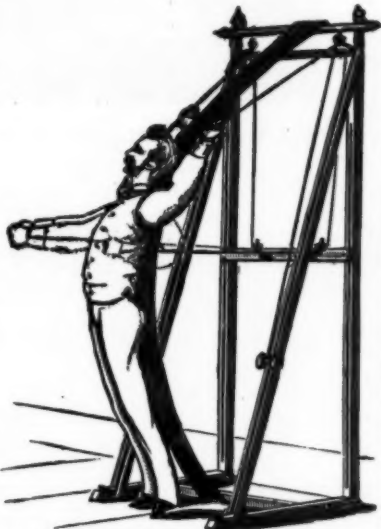


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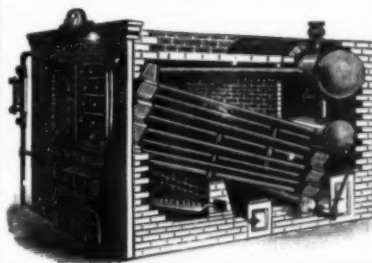
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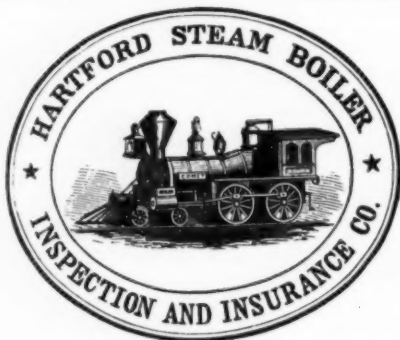
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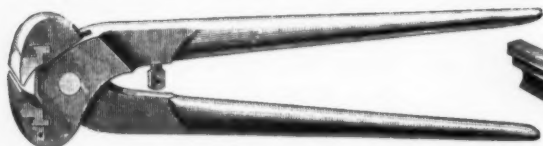
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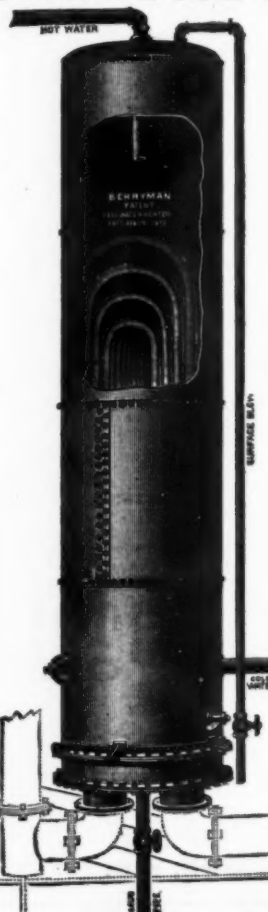
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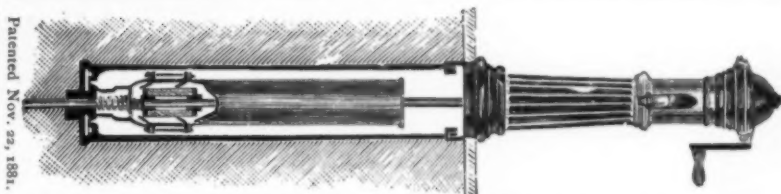
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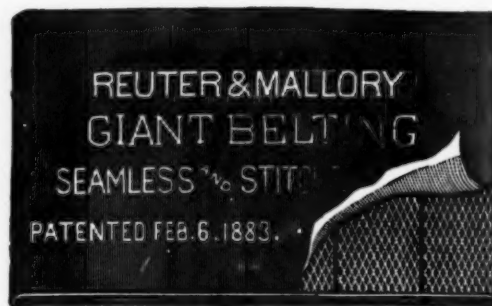
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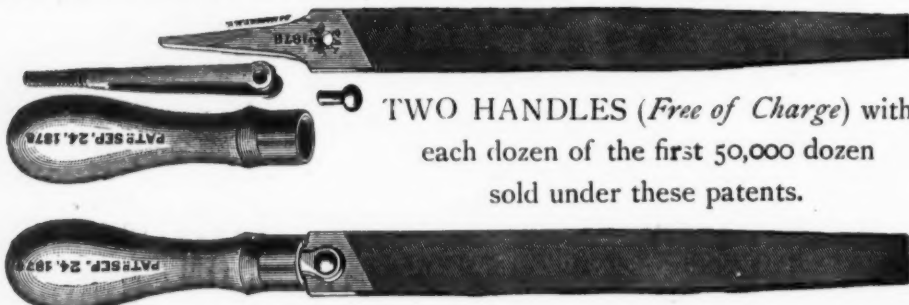
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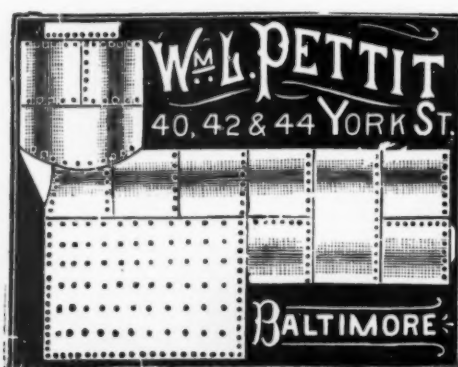
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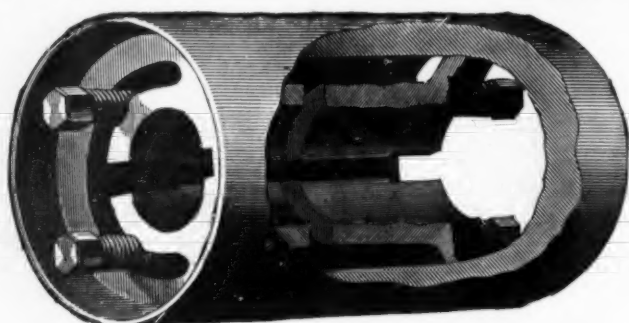
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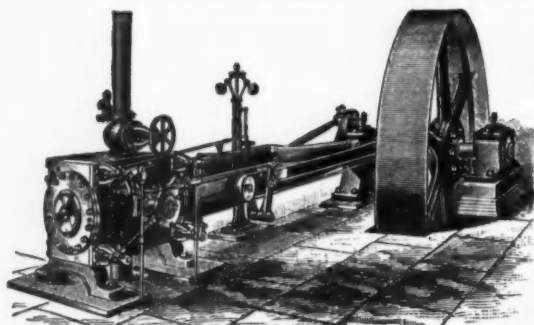
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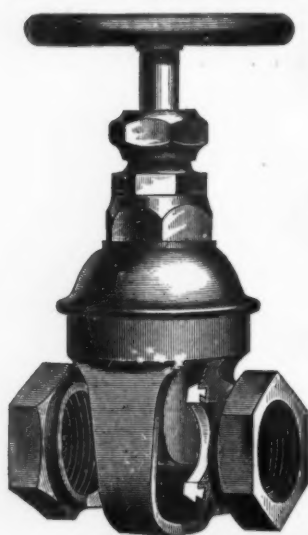
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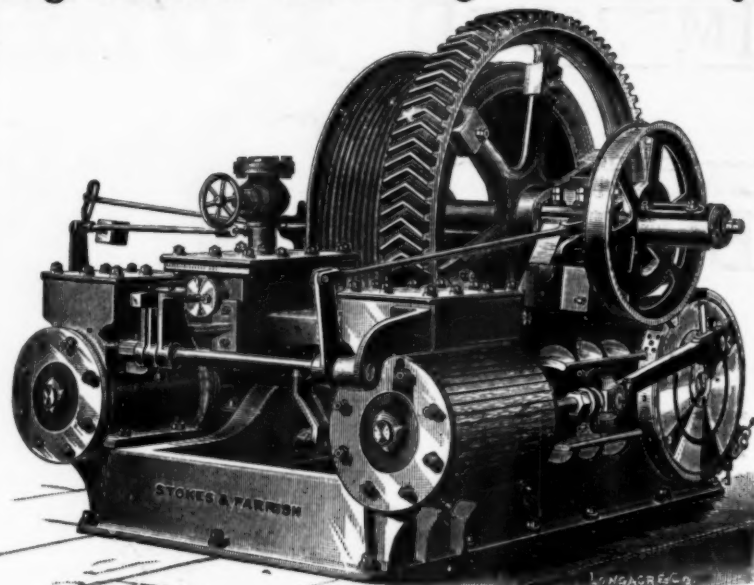
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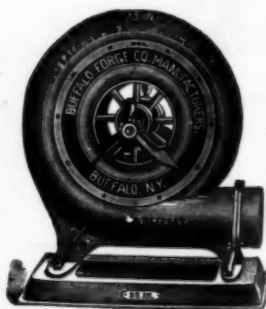
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